

ENERGY

Conservation of Energy

Energy can not be created or destroyed.

Energy can be converted from one form to another

Forms of Energy:

Potential Energy = Stored Energy

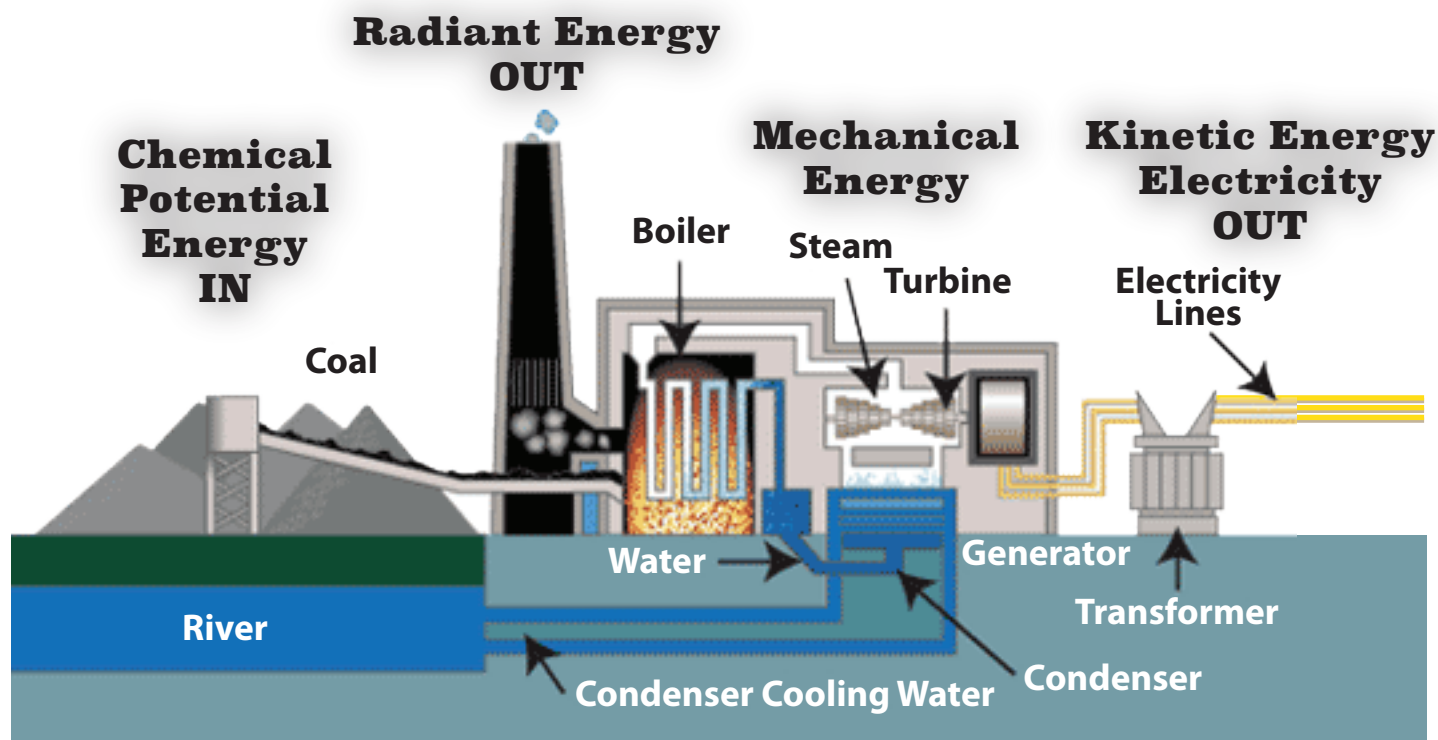
- A) Gravitational Potential Energy = Rock on Cliff , Hydroelectric
- B) Elastic Potential Energy = Spring or Rubber Band
- C) Electrical Potential Energy = Battery, Capacitor, Outlet
- D) Chemical Potential Energy = Food, Fossil Fuels, Nuclear

Kinetic Energy = Energy of Motion

- A) Mechanical Energy = Moving Truck with a load
- B) Electricity
- C) Wind Energy

Radiant Energy = Energy spreading outward

- A) Light = all forms of electromagnetic radiation, Solar Energy
- B) Heat = energy transferred by a difference in temperature
- C) Sound = energy associated with vibrations of matter



Typical Coal System

Temperature v Heat

Temperature

Temperature is a measure of molecule motion

Measured in:

- Degrees Fahrenheit (°F)
- degrees Celsius (°C)
- Kelvin (K)

Heat

Energy that flows between two samples of matter based off their temperature differences

Measured in:

- Joule (J)
- Calorie (cal)

Calorie = amount of energy it takes to raise 1.0 grams of water by 1.0 °C



Types of Heat Transfer:

Conduction = Energy transferred through direct contact

Convection = Energy transferred through fluid circulating

Radiation = Energy transferred through waves

Heat and Reactions:

Exothermic Process = when a reaction takes place and heat is Exits System



Endothermic Process = when a reaction takes place and heat Enters System

